THE WESTERN FARMER,

DEVOTED TO AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

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Valedictory.

Our connection with the Western Farmer, ends with the present number of this work, having disposed of our interest in it to E. J. Hooper, Esq. by whom it will hereafter be conducted. In regard to this gentleman, it is only necessary to say, that his practical and scientific knowledge on the subject of agriculture, horticulture, &c. is a sufficient guarantee to our patrons and the public, that the pages of the Farmer will not only retain their interest and value, but in our opinion be greatly enriched under his supervision. The community, however, need no commendation from us in favor of this gentleman, as he is known to be a practical farmer of some reputation, and the compiler of a recent very valuable work, entitled the Practical Farmer, Gardener, and Housewife, or Dictionary of Agriculture, Horticulture, and Domestic Economy, &c. This work has a very extensive circulation, and is, by the by, a first rate family book.

We retire from our task in the enjoyment of the utmost confidence that the work, fostered and guided by the skilful hands to which we have now consigned it, will outlive the storm-raging billows which *we* have had to buffet in its establishment, and yet brighten on the pathway of the agriculturist, when the gloom of commercial depression and political strife, shall, like the demon of war, spread its funeral pall over the world. In resigning our charge, we beg leave to assure our brethren of the press, our early patrons and increasing correspondents, that we shall cherish with grateful emotions, a remembrance of the interest they have manifested in the success of our enterprise while in its infancy, and leaving our kind wishes for their prosperity, we solicit for the future advancement of the work, a continuance of their favors in behalf of our friend and successor, who will adopt our favorite motto, that "UPON AGRICULTURE THE FOUNDATION OF INDIVIDUAL HAPPINESS AND NATIONAL PROSPERITY MUST RELY FOR SUPPORT."

G. G. Moore.

Introductory.

On undertaking the continuation of the publication of the Western Farmer, it would seem expedient in our new capacity of Editor, to make a few preliminary remarks in relation to the manner and objects we have in view in so doing. In the first place we wish strongly to impress upon the minds of those tillers of the soil who may patronize this work with a view to their improving in agricultural knowledge, that the main foundation on which we hope to predicate our success and their improvement, is in the description of, and arrival at, conclusions deduced from *immediate practical experiments in our own section of the country.* None can be more fully sensible of the importance of this proceeding than ourselves. It is true, that there are sometimes many valuable suggestions in agricultural pursuits brought to light by the calculations of science and the deductions of theoretical enquiry, and being acted upon by some industrious minds, their truth has been fully realized; but this is not in general a common event, and therefore the only true and certain mode of obtaining complete information, is to state facts resulting from actual trials. We shall be the better enabled to persevere in this course, from the circumstance of our possessing a tract of land which we have been cultivating for the last nine years, and upon which we have been endeavouring to prove many important particulars concerning agriculture, stock, gardening, and rural economy. These facts, united with others from sources equally authentic, it is our interest as it will be our pleasure,

to lay before our brother farmers. We shall have many opportunities, we trust, and we shall make it a part of our business, to visit the neighbouring country and states, and obtain from *practical* men, and from actual observation, all the knowledge which we may consider likely to be instrumental in forwarding the advancement of the great and noble cause in which we have embarked. We have great satisfaction in stating that we have the pleasure to be personally acquainted with many zealous, judicious, and enlightened men engaged in agricultural occupations, and we have no doubt we shall be able to obtain from them such valuable communications as will add largely to our stock of practical knowledge for general circulation. In truth, (we hope those gentlemen will excuse our simile,) we intend to deal with them as people are in the habit of doing with oranges—we intend sucking all the juice and throwing aside the peeling; and let us hope that they will excuse our want of ceremony in so doing, on the score of the benefit they will be conferring on the agricultural community. And here let us enquire, why the science and art of agriculture should not be admitted to an equal importance in public estimation and actual practice in every important point of view, with respect to education and dignity, as chemistry, architecture, law, or the study of medicine; and why it should not be considered as one of the sister sciences, and claim great attention in our institutions of learning? The reason why it has not, *we* presume, is, that agriculture has hitherto ever been the business chiefly of the labouring classes of mankind; and this being the case, it has been considered by those who have been blessed with the advantages of an education superior to the mass of the people, that it is not an occupation capable of developing much intellectual capacity or deep scientific research. There cannot be a greater mistake than this. So far from it, the truth of the matter is, there cannot exist a greater expanse or wider range of varied and interesting objects than the cultivation of the earth, with all its accessories, presents to the mind of man. And this is far from being all that can be said in its favor; indeed, much has been written most convincingly, by much abler pens than ours, lately on this subject: if it does not promise such large returns of profit as commerce and manufactures, it offers certainly more substantial and beneficial advantages to mankind in promoting real elevation of character, in cherishing a love of nature and all her beautiful scenes, by which the moral and less sordid qualities of the human character are encouraged, and we learn to look more earnestly towards objects more precious to us than those of mere time and sense. When these things shall be more maturely considered and more actively brought into practice, and scientific knowledge and enlightened education have been brought to bear on the subject, a new day will dawn on the agriculture of the country and the condition of the husbandman. To hasten this most invaluable march of improvement and to quicken its impetus, we ourselves, the farmers, must lay hold of the matter, and we should all feel that we have individually a part of this great work to perform, and each should advance its progress by adding some items to the universal joint stock;—a mere *approach* to perfection can hardly be obtained without these means.

Let us then arouse ourselves and be doing, and throw in severally all the knowledge derived from practical results, that it is possible for us to arrive at. What may seem trifles in themselves, may become of incalculable advantage to the wide spreading farming interests; and thus we shall obtain other useful knowledge ourselves in exchange. We invite, most earnestly, every practical farmer and every researching theorist who may have tested his ideas by action, to correspond with us and lay before us, in plain language, in any form which may be thought best, the conclusions of their experience.

We will embody them in a suitable shape for the public use, without mutilation or disfigurement, except such as may appear to us absolutely necessary to

modify. What we want is correct statements of facts. We intend to obtain as much original matter as possible, and not depend much on selections from other agricultural periodical publications. There have been several articles of seeds, machinery, &c. which have turned out mere *catch-pennies*. We shall be as much on our guard as possible in recommending any thing of this kind, whose utility or effectiveness have not been fully tried, and whose price should not be commensurate with the objects. We shall now proceed at once to *matters of fact*, and leave off *talking* for the present.

E. J. Hooper.

The Fly in Wheat.

As the Hessian Fly is making great ravages in the wheat crops both in Ohio and Kentucky this season, we may as well communicate our own experience, as well as that of many old farmers who have cultivated wheat many years, that the Hessian Fly, as it is called, almost invariably attacks *early* sown wheat in the latter part of autumn, and after experience has also proved, that wheat sown *very* late is equally liable to destruction in the following spring, as is now the case, according to the information we have recently received from the neighboring country. It appears then advisable to adopt a middle course, sowing our wheat, if possible, between about the 8th and last of October. The oldest farmers inform us that, having adopted this course, viz. sowing after the first autumnal frost, that the wheat may not be above ground until the autumn fly has perished, with a good soil and good culture to insure vigorous growth, (the present wet season of course forms an exception to the general rule of growth in this respect,) they have never suffered any loss from this insect. Some experiments recorded by agricultural societies, of sowing caustic lime upon the grain, particularly while there is dew upon the ground, in the spring of the year, seem to encourage the idea, that it saves the crop, at least partially, from the fly. It is at any rate worthy of further trial, and we shall be glad if any of our farmers will inform us of any results that may strengthen the probability of this application being successful. Warm and unseasonable weather late in the autumn, as was the case last year, will favor the work of destruction of this insect *at that time*. The *spring* insect is more likely to do mischief when wheat is sowed so *late* as to be *much stinted* by the severity of winter frosts, and therefore in the beginning of spring its growth is not sufficiently strong to outlive the attacks it may receive from this pest. We may state shortly, until more new lights shall be thrown upon this subject, which we trust may be done by some of our practical farmers, that the best precautions to be taken against this interloper on our prosperity in raising the "staff of life," is, on very poor land, manuring well; making use of a heavy roller after the chrysalis or grub is formed in the autumn, or in the spring before it is hatched; ploughing up the stubble deep, and thus burying it, and afterwards harrowing it, and again in the spring, burning the stubble, ble an operation which, if thoroughly done, must destroy the grub most effectually; pasturing in the spring on strong lands, and when rank in growth; and last, but not least, as before stated, sowing the wheat, as far as a knowledge of the season will permit, at a

medium distance between the first and last frosts of autumn. This insect first made its appearance in New England, according to Dr. Dwight, in his *Travels in New England*, in 1787, and advanced at the rate of twenty miles a year, destroying the crops of entire districts and rendering it impossible to cultivate a particular variety of wheat. The bearded varieties of wheat seem to be more free from its incursions, the stem being stiffer and stronger than the smooth eared varieties.

The Cut Worm.

This enemy to the farmer and gardener is so very destructive to the corn and garden crops this spring, rendered worse by the quantity of rain we have had, that we wish to state a fact that we have ourselves experienced in regard to a preventive we have used, and which we have found successful. This is the use of a little lime and ashes mixed, either applied in the ground with the seeds or plants, or at the surface of the ground with both. We have had as many as ten out of fifty tomato and cabbage plants cut off or destroyed in one night before the use of this application, when after it, not more than one or two in one hundred plants suffered. The alkali not only seems to present a barrier at the point of the top of the ground, but the soil underneath, particularly with rain, becomes so impregnated with it, as to destroy or drive the grubs away. There is reason, we think, to believe that if the worm can feed upon succulent grass under, or fresh grass or green leaves or vegetables spread on the surface of the earth, it will feed but little, if at all, upon the growing plants. A friend of ours has informed us that he found one morning as many as seventeen grubs under a small portion of spread green leaves. Planting upon a fresh ploughed clover ley is a pretty sure way of escaping their depredations, but to plant on an *old* sward, turned over the previous fall or summer, we are likely to suffer severely from them. Be careful also to plant at a distance from any grass plat or lawn. To make three or four holes in the ground round the plants is doing good; the grubs are apt to fall into them and they cannot climb out, and the hot sun afterwards destroys them, Salt or brine is very offensive and pernicious to them. However, there is some danger in making use of salt or brine, of injuring the plants, and therefore decoctions of elder, walnut leaves, or tobacco, are preferable; though the salt or brine may be used only round the plants and not on them, and the last should be well diluted. These last small and troublesome remedies can, of course, only be used in the garden. Frequent superficial hoeing in the middle of the day, when the weather is fine, by exposing to the sun proves fatal to many of them.

We shall endeavor by and by, to give engravings and descriptions of these and other destructive insects, both in their *larva*, *pupa*, and *perfect* states, which may be useful and interesting to the agriculturist. For the present we will state that the cut worm is the offspring of the *phalena devastator*, wings, horizontal; white with small dark spots; under wings orange; conceals itself from the sun during the day, and lays its eggs near the roots of grasses.

Woodland Pastures.

It appears to us, that the farmers of our vicinity, on both sides of the Ohio, more particularly on the Kentucky

shores, are not sufficiently alive to the profit that is to be derived from enclosing as much of their woodland as possible, and sowing it down in orchard or blue grass. By not doing this, a vast quantity of valuable ground is in a measure lost to the proprietors, except so far as the use of the timber is concerned. Most of this land is of so hilly and broken a nature too, that it would be very injurious to it to make use of it for any other purpose than for that of grazing. A considerable quantity of stock might thus be sustained during the greater part of the year, either by purchasing them in the spring when lean, and selling them at the beginning of the winter, or stall-feeding them through the whole or part of that season. The time they would be ready for the market would of course greatly depend upon the breed, their disposition to fatten being very well known to depend chiefly on this circumstance. And here it seems highly desirable to remind farmers in general, how much benefit they will obtain from crossing their best common stock with the best bred bulls of the Durham kind, especially for the purpose of beef; and even for milk, if they can procure them of a stock celebrated for the quantity of that production; they will be more sure, by so doing, to perpetuate those qualities in their offspring; as it is well known that the common scrub cattle, although some of them are excellent milkers, cannot be *depended* upon in transmitting that quality to their descendants. It is not yet generally known, that even in thick woods, *rye*, when sown in the autumn before the falling of the leaves will afford good pasture, and this without the necessity of ploughing or harrowing, or any other operation of that kind. The leaves cover and protect the roots during the winter, but it will put forth in the spring and form a good pasture. And if a portion of it is allowed to ripen, it will, as in other situations, effect a second sowing. This hint alone, like many others connected with the wide field of agriculture, and which, like them, has its creation in the concentration of many minds upon one subject, and presented to the public, may be worth to the farmer who will try it, ten years' subscription to an agricultural paper. With respect to the operation of seeding woodland, (which is the better for not being dense) with orchard or blue grass, (the latter appears to answer every purpose,) the first process after picking up the brush and grubbing, is to burn the leaves sufficiently to let the seed reach the ground, taking the necessary precaution to guard against damage to the fences, &c. In the event of the weather not allowing the burning of the leaves, take a slab or puncheon about five feet long and two feet wide, inserting therein a common split ox-tongue, and attaching a yoke of oxen thereto, and perhaps a horse in the lead; this will throw the leaves in piles and leave the ground clean and smooth, ready for the reception of the seed. Let one man drive, one manage the scraper, and one sow the seed. Six or seven acres a day can be got over in this way. Sow about two gallons of orchard grass or timothy seed and half a bushel of blue grass (cut) per acre. This is a very sure way to seed woodland. We are aware that all this requires some considerable outlay, and the particular situation of some farmers' lands are much better adapted for this course than others; but the hint may serve to

put them in mind of what might be effected. Mr. James Berry, a truly practical agriculturist in this vicinity, is now trying how much shade blue grass will bear on his farm. We will inform the public of the result of his trial in due time.

The Cherokee Rose for Live Fencing.

It is time we commenced endeavoring to discover the most valuable kind of shrubs for hedges. If we should not stand in great need of them in our time, yet we ought to consider that, if we can make any advances in this way, it will be so much gained for those who are to come after us—our children and children's children. Besides, their ornamental appearance about the house or garden is a strong inducement to make a few efforts to obtain the best as well as the most beautiful enclosures of this kind. Having become acquainted with a gentleman who has witnessed the propagation and growth of hedges in Louisiana and Mississippi, of the Cherokee Rose, we shall give his description concerning it, as we obtained it from him, and of which we made notes at the time. It has the advantage over the Honey Locust in growing compactly at bottom, and not throwing out such straggling and therefore dangerous thorny limbs. Still its thorns are sharp and strong. The branches that extend from the lower parts of the stem have the property of taking root very readily. In this case the branches which throw out after planting the cuttings, being layered, or a little earth thrown over them, will soon fix themselves in the ground. The cuttings, therefore, need not be planted closer than two feet in good ground. There is a decided advantage in this shrub being increased so rapidly by cuttings, when other plants for live fences raised from the seed, require so much more time and trouble. The cuttings of the Cherokee Rose may be planted in a nursery before they are taken to their final location, and then cuttings can soon be procured from them in any number.

In order for more certain protection, and as there are so many wood fences at hand, it will be advisable, particularly, if they are post and rail fences, to plant as near them as possible. The fall is the time for planting. Cut the vine from ten to fifteen inches in length, and insert in the earth each end of the cutting, exposing the buds. Every year, in the spring, the hedge should be intertwined till it has attained sufficient size, after which it will only need occasional pruning. It will take about four years to reach maturity. We are informed that thousands of acres are enclosed with this kind of fence in Louisiana. Stock of all kinds, except hogs (and they root it up) reject it as food. It will be an easy thing to procure the seed of this plant from the south, and its hardiness and capability of bearing our winters has been already proved in this neighbourhood. We shall procure some seed as soon as possible, and will lay before our readers the results of our trial. If it should not at first suit our latitude, it seems worth while to attempt to acclimate it.

For the Western Farmer.

Clearing Land.

Mr. Editor:—Having failed to write as I purposed, for your seventh or March number, on the subject of planting and tending corn—failed, partly for want of time to write, and partly from being fully convinced, upon examination and inquiry, that farmers in this part of the country, have not obtained the best and most profitable kind, (quality, sort, and as I believe it is generally termed, *breed*,) of corn.

Being a stranger in this part of the country, having lately come from the northwesterly part of the New England States, I have taken great pains to observe the quality of corn, and have seen many wagon loads in the ear, and made some inquiries, and have read many publications on the subject, and from the best information that I can gather, I am fully of the opinion, that farmers here do not generally get one half so much value of corn per acre as they might, if they had seed of a good quality from the New England states. The long-eared, eight rowed, meadow corn is the best, the most productive, and the heaviest, and I am confident would do well here, and would be a very great and lasting benefit to the farmers in the Western country, if they would be at the expense of procuring seed of that kind, and improve it according to my intimations in a former number, "on saving seed corn." But, raising corn is not the subject I purposed to write upon at this time.*

The process of clearing new forest or timber land, is a subject that has occupied my mind somewhat of late, although I have no idea of ever being again engaged in, or seeing it performed.

Having passed through the state last October, from Lake Erie to the Ohio river, and much of the way through a newly settled country, and having observed critically, the state or condition of the newly cleared land, lying in sight of the way, I discovered that nearly all was cleared in much the same way or manner, i. e., by clearing out the under brush, the stubbles and small sized trees, but nearly all the large trees of ten or twelve inches in diameter, or more, (even where the land was very heavily timbered,) were left standing, effectually girdled, so as to be sure to kill. Now what profit can possibly be derived from land cleared in such a manner; assuredly but little, until these trees are effectually cleared off. Do you ask for evidence, or reasons to support such a statement? They are abundant, and facts too, which cannot be successfully controverted, some of which I will endeavour to point out.

And first, many of the trees will put forth leaves one or two years, and some of them faintly the third year, which, together with the small twigs, limbs, and bodies of trees, shade the ground so that no crop can grow to any thing like perfection: some of them will die the first year, and then the twigs and small branches soon begin to fall off, forming a moss-like coat over the surface, and if pastured, cattle cannot feed well upon it, or if kept for mowing, it is a great trouble, and mixes with and injures the hay, and in four or five years, the larger limbs, and even large branches are blown off by winds; and soon the bodies of the trees are blown down by high winds. If it be pasture land your cattle are in danger of being killed; if in mowing, your crop is in a great measure destroyed, and what you do get is poor stuff, hardly worth securing, and not only so but you must necessarily go over it every spring, and clear off what can be gathered without a rake, and then perhaps in a week's time it may be as badly covered with trash as before, and thus you will be troubled yearly, until the whole is cleared off.

If any one who is going into the woods to begin a new farm, should happen to read this, and be influenced by it, or any other means to avoid the practice above described, they will certainly find it greatly to their advantage. Depend upon it, farmers, five acres a year, or any other number according to your means, well cleared, and well cultivated for five years, will yield more produce, and more profits than fifteen acres a year, for the same time, can

* Finding I could not get a piece into the March number, and that it would be too late in the April number, for this season's planting, that being the first process, after preparing the ground, I concluded to omit, for the present, writing on that subject. However, if I should live, and be able to write, I may hereafter say something on the subject, if no one better qualified offers. I see the subject is being investigated in the agricultural periodicals, and I think it an important investigation too.

possibly be made to yield if cleared in the above described manner.

I never had personal knowledge of the effects of clearing land in that manner, only in one instance. When I was about fourteen years of age, a farmer from Rhode Island, came into the township where my father with his family lived, (being an entirely new settlement in Vermont,) and having a number of boys, some of them well grown, and a hired man, he purchased a lot of land, not a tree nor a bush cut upon it; but he went to work with all his help, clearing in the way before mentioned, and cleared perhaps twenty acres, mostly in that manner, put in some small grain, such as wheat and oats, seeding it mostly with grass, in order to provide for hay and feed for stock. I heard him say, many years afterwards, he never could get the half of a good crop of any kind, until all was cleared off, and that it cost more to clear it over again, than it would have done to have cleared all in the first place; he had great reason to regret his folly, or mistaken zeal for getting his land cleared so fast. Instead of having his farm cleared, he had the work to do over again, and that too at a great loss. I have mentioned this case because it was within my own personal knowledge and observation, hoping some one or more may be benefitted by reading this communication, as I learned by observation and inquiry, that it is quite a practice in this state and in this part of the country, where there is timbered land to clear. Having spun out this piece to a greater length than was intended, when I commenced writing, I shall now close, observing, however, by the way, that I must advance a little in the *cognomen*, having completed my sixty-ninth year, I must now say .

Cincinnati, April, 1840. Old Seventy.

For the Western Farmer.

The Sugar Beet.

Mason Co. Ky. April 25, 1840.

Mr. E. J. Hooper:—I have read six numbers of your valuable and interesting work, viz. the Western Farmer. Already much useful information has been disseminated, especially to the farming class of the community. Some of my brother farmers have already nobly stepped forward and given the result of many experiments in various branches of husbandry, with which I am pleased, and expect to be benefitted, for I am not so much wedded to old customs as not to receive and appropriate to myself a good suggestion, let it come from what source it may; and in return I will give the result of an experiment I made last year upon the sugar beet. I was induced, from the various articles I saw in agricultural works, especially the Farmer's Cabinet, to try a small crop by way of experiment. I have satisfied myself that it is a profitable crop even in this country. The yield of the crop that I raised was not large when compared with the yield of many others, as I had not, at the time I concluded to plant, a suitable spot for them. I think I can safely say, however, that I got from four to five bushels of beets to where I would have obtained one of corn. I planted in the usual way, by ploughing deep and pulverizing the earth well by harrowing, then throwing two furrows together with the plough, after which I made a small drill on the ridge, scattered my seed along the drill and covered to the depth of about two inches. They came up badly, owing to the drought. In some places they were too thick. I thinned and transplanted in the missing places. The transplanting did not do as well as those that stood from planting. The labour was about equal to that of corn. When I commenced I intended in this article, to speak only of their value as food for milch cows. Not having a barn cellar, I buried them in the ground like potatoes or turnips; in that way they kept well. They were fed to three cows until about the middle of January, when two that were expected to calve were taken off them, so I shall speak of one more particularly. She preferred the beet to any other food; when bran, beets, and potatoes were given her at the same time, she would

select all the beets first, and eat them. She was fed about half a bushel twice a day, which was her principal food through the winter, save her having access to straw every day and occasionally fodder, and sometimes bran and potatoes, at which time the quantity of beets was reduced. She kept in fine plight all winter; her hair looked smooth and fine, and had a healthy appearance. She gave as much milk as she does off of good pasture; the milk sweet and good. I had *good* yellow butter all winter. As I omitted to weigh or measure I will have to deal only in general terms, promising to do better in future; suffice it to say, I have twelve in family, and we had a sufficiency of milk and butter, and had butter to spare. More butter was made from my one cow than from five cows well fed on bran, shorts, and chopped oats, belonging to my nearest neighbour. The result has been such that many of my neighbours are preparing for a crop of beets this year. Now I would not advise any person to dispense with other profitable crops for that of beets, but for the luxury of good milk and butter in the winter, to plant an acre or two for your milch cows. An acre (say our Yankee brethren) of land rich and well manured, will yield from six hundred to 1000 bushels of beets. If I am pardoned by my brother farmers for these general remarks, I will atone for them, if requested, by being more specific in future, on the same subject, or give a short article on another subject,

WM. C. HOLTON.

For the Western Farmer.

Cure for a Scald.

Mr. Hooper:—Perhaps the following remedy for a scald, may be of some benefit to those who have faith enough to try it. A little son of mine, about four years old, fell with one arm up to the elbow, into a kettle of boiling apple-butter, at least it had just been taken off the fire. A friend of mine was present who advised me to immerse his arm in cold spring or well water which was instantly done, a bucket of water being at hand. He then advised me to take linen cloths and wet them with cold water, and to keep them wet until the fire was drawn out. We continued to wet the cloth every ten or fifteen minutes with the cold water, for about six hours, and as incredible as it may appear to some, the skin was not broken, and in eight or ten hours it was as sound as the other arm. The child did not appear to suffer any after the first hour or two. My friend told me he had seen the same remedy successfully tried in other cases. W. C. H.

WE would second the views of the Cultivator, and give place to the following article selected from its interesting columns.

Census of Agriculture in the United States.

We are happy to perceive that this important subject has been taken up in the proper quarter, and that we are at last to have such an enumeration of the agricultural products of this country, as will furnish some safe estimate of the quantity produced, and the districts in which they are grown. In reply to some suggestions made by us on this subject, Mr. Deberry the chairman of the committee of agriculture, has kindly forwarded us a copy of the instructions for the use and direction of the marshals and their assistants, from which we find the following series of inquiries are to be propounded to every farmer. Although there are some products it would be perhaps desirable to have introduced into this list in order to render it complete, yet it contains all the most essential items, and if carried out in the spirit in which it seems to have been conceived, it will be a collection of vast importance and value to the country. Had such a census of our agriculture been taken at every ten years, the comparison of the tables at different times would be of the greatest interest, as determining the increase in the product of our fields, and the districts in which the greatest fluctuations have taken place.

We have one suggestion to make in

regard to this matter which we consider of very great importance. It is this: Let every printer of a newspaper in the country, and in all the cities that print journals for distribution in the country, give a place to the questions which we copy below, and which will be propounded to every farmer in the United States. As it is to be hoped that there are few or no farmers who do not receive some journal, agricultural or otherwise, such a course would be the means of bringing the subject to their notice, and enable them to prepare their answers with greater correctness than they might otherwise be able to do. If every farmer who receives a copy of these interrogatories, would at his leisure sit down, and write against each one the proper reply, not only would the labors of the marshals be greatly expedited, but which is of more consequence, a greater degree of accuracy would be secured. The marshals will commence in June next, and proceed through their districts as soon as consistent with accuracy. The interrogatories refer to the crops of 1839, and to the products of that year must the answers relate.

Agriculture—Interrogations.

What is the number of your horses and mules?

How many neat cattle have you?

How many sheep?

How many swine?

What is the estimated value of your poultry of all kinds?

How many bushels of wheat did you grow in 1839?

How many bushels of barley?

How many bushels of oats?

How many bushels of rye?

How many bushels of buckwheat?

How many bushels of Indian corn?

How many pounds of wool?

How many pounds of hops?

How many pounds of wax?

How many bushels of potatoes?

How many tons of hay?

How many tons of hemp and flax?

How many pounds of tobacco?

How many pounds of rice?

How many pounds of cotton have you gathered?

How many pounds of silk cocoons?

How many pounds of sugar?

How many cords of wood have you sold?

What is the value of the products of your dairy?

What is the value of the products of your orchard?

How many gallons of wine have you made?

What is the value of your home-made or family goods?

As intimately connected with these, may be added those relating to horticulture—which are as follows:

What was the value of the produce of your market garden in 1839.

What was the value of the produce of your nursery and green-house?

It is hoped that editors friendly to the cause of agriculture, or who have readers in the agricultural districts, will give a place to the above interrogations, and invite the attention of those interested, that they may be in readiness with their replies. Let the first effort for an agricultural census of the United States, be met in a manner that shall ensure the desirable accuracy of the measure.

Experiments in Planting Potatoes.

Messrs. Gaylord and Tucker:—I noticed an article in the Poughkeepsie Journal, of October 30, credited to the Yankee Farmer, on the cultivation of the Rohan potato; as I am in possession of the information called for in that paper, I give my experiments and the result. If you think they will benefit your patrons, you will give them a place in your paper. The Farmer says:—"The extraordinary prolific nature of the Rohans, as stated in many papers, is likely to deceive those farmers who are unacquainted with them, and know not that this potato needs much more ground than our common kinds; and it would be more satisfactory and useful too, as it would lead to a correct view of the subject, if those who publish accounts of their great yield, would

have the goodness to state the quantity of ground or the number of hills planted, as well as the quantity of seed, for this is surely of superior importance." I planted six rows of Rohans, of thirty hills each, with the following quantity of seed:—

No. 1,	one eye in a hill,	produced 120 lbs.
No. 2,	two eyes in a hill	do. 130 do.
No. 3,	three eyes in a hill	do. 151 do.
No. 4,	four eyes in a hill	do. 139 do.
No. 5,	five eyes in a hill	do. 155 do.
No. 6,	six eyes in a hill	do. 155 do.

The soil a dry gravel, well manured, planted the first of May, and precisely five rows to a rod, equal to 4,000 hills to the acre; the greatest yield being equal to 344 bushels (of 60 pounds to the bushel) to the acre. The common varieties do not yield, this year, on dry soils, but little more than half the usual quantity to the acre. It is reasonable, therefore, to suppose that the Rohans do not yield a full average crop—my largest potato weighed 3 pounds 5 ounces. To judge from the size of the potatoes and the size of the tops, I am inclined to believe that it is unnecessary to plant them more than three feet three inches asunder, or five rows to the rod, the same distance that I plant my common varieties. I regret that I did not weigh my common potatoes, planted by the side of the Rohans, and cultivated the same in every respect—but should judge they did not yield more than half the quantity to the acre.

I also tried an experiment with the common potato, planting two rows of thirty-three hills each, with one middling sized potato in a hill; and two rows of thirty-three hills each, with two middling sized potatoes in a hill, and placed from four to six inches apart, the potatoes of a size as near as we could judge, planted precisely five rows to the rod. The two rows, with one in a hill, yielded 251 lbs. or 253½ bushels of 60 lbs. to the bushel, to the acre: the two rows with two in a hill, yielded 300 lbs. or 303 bushels to the acre, making a difference of fifty bushels, in round numbers, to the acre, in favor of two potatoes in a hill. The soil a moist loam, and in an extra state of cultivation.

Perhaps I ought to say a few words about Grant Thorburn's "Charity Corn," as I was one of the many who purchased this highly recommended variety of early corn. In the 5th volume of the Cultivator, page 157, Mr. Thorburn says: "I planted this corn on the 10th of May; it had ears fit for boiling the 10th of July!!" I planted this corn on the *first of May*, on a gravel soil, highly manured; and on the *tenth of September*, I do not think an ear could have been found too hard to boil. So much for the early corn: I will say to friend Thorburn—you are entirely welcome to the few pennys you have filched from my pocket.

Your constant reader,

SHERMAN BASSETT.

North-East, Dutchess Co., Dec. 17, 1839.

[Genesee Farmer.

Painting with Milk.

By A. A. Cadet de Vaux,' Member of the Academical Society of Sciences.

"I PUBLISHED, in the 'Feuille de Cultivateur,' but at a time when the thoughts of every one were absorbed by the public misfortunes, a singular economical process for painting, which the want of materials induced me to substitute, instead of painting in distemper.

Take skimmed milk, one quart—fresh slacked lime, six ounces—oil of caraway, or linseed, or nut, four ounces—Spanish white, say whiting, five pounds. Put the lime into a vessel of stone ware, and pour upon it a sufficient quantity of milk, to make a smooth mixture; then add the oil by degrees, stirring the mixture with a small wooden spatula; then add the remainder of the milk, and finally the Spanish white.—Skimmed milk, in summer, is often curdled, but this is of no consequence, as its fluidity is soon restored by its contact with the lime. It is, however, absolutely necessary that it should not be sour, for in that case, it would form with the lime a kind of calcareous acetate, susceptible of attracting moisture. The lime is slacked by plunging it into water, drawing it out, and suffering it to fall too pieces in the air. For paint-

ing white, the oil of caraway is to be preferred, as it is colorless; for painting with the ochres, the commonest lamp oil may be used.

The oil, when mixed with the milk and lime, disappears, being entirely dissolved by the lime, and forms, with it, a calcareous soap. The Spanish white must be crumbled, and gently spread on the surface of the liquid, by which it is gradually imbibed, and at last sinks. It must then be stirred with a stick. This paint is colored like distemper with charcoal, levigated with water, yellow ochre, &c. One of the properties of my paint, which we may term *Milk Distemper Paint, (Peinture au lait de trempe')* is that it will keep for whole months, and requires neither time nor fire. In ten minutes we may prepare enough of it to paint a whole house; the above quantity being sufficient to paint the first layer of six toises. One may sleep in a chamber the first night after it is painted. New wood requires two coatings. I have since given a greater degree of solidity to this method of painting, for it has been my aim, not only to substitute it in the place of painting in distemper, but also of oil paint.

Resinous Milk Painting.

For work out of doors, I add to the above paint—slacked lime, 2 oz.—oil 2 oz.—white Burgundy pitch, 2 oz.—The pitch is to be melted in oil, by a gentle heat, and added to the milk and oil. In cold weather, the mixture should be warmed, to prevent the pitch from cooling, and to facilitate its union with the milk and oil. This painting has some analogy with that known by the name of Encastic.

I would merely observe, that I have used the above mixtures more or less extensively for several years, and that I am perfectly satisfied, in my own mind, that by proper attention in mixing and applying, it may be made, not only a cheap and economical, but a durable substitute for ordinary paint. Its appearance, when applied to the exterior of buildings, is more beautiful than that of the best German lead—having a fine glossy surface, and when put on by a workman, equally as impervious to water. Experimentalist.

Red Giant Goliah Rhubarb.

In the market gardens around London, a large species of rhubarb is extensively cultivated, with which the various excellent markets of the metropolis are well supplied; but beyond the range of a few miles, the particular kind to which we would direct the attention of our farming friends, is comparatively little known—the generality of country gardens being disgraced with a root or two of dock-like plants, with stalks no thicker than a finger, fibres like a whip-cord, and a flavor!—Uh! No wonder so few persons, *thus possessed*, should like rhubarb tarts! No wonder they disguise the taste with shrivelled apples just going out of season, or gooseberries just coming in! The noble plant which we would recommend to every living being who owns a patch of garden ground, is as superior to the old fashioned nauseous plant just mentioned, as our cultivated celery is superior to the rank wild weed of the same name growing by muddy ditches. One would be led to suppose, that, from the rarity of the giant rhubarb, it was difficult of cultivation, tender and troublesome to manage; whereas it is as easily propagated as any other perennial vegetable; is so hardy that no degree of frost which we have ever experienced, will injure it; and of all esculents for pies and puddings, it is the most readily prepared. It is so prolific that half a dozen roots would keep a small family constantly supplied, during four months of the year; that is, from the beginning or middle of April, (according to the forwardness or backwardness of the season,) until the beginning or middle of August. We have known instances of this, *fruit* must we style it? being preferred to all others for the purpose of pastry, throughout the summer, even where fruits of every kind abound. We have known stalks of the Red Goliah Rhubarb to measure six inches in circum-

ference, and nearly two feet in length, so that only one of them has been required for a pudding; so delicate and soft, too, is its texture, that as soon as it arrives at the boiling point, it becomes a fine pulp, and is already sufficiently cooked. As a garden production for culinary purposes, it is certainly invaluable—being in perfection precisely at that season when apples become tough and scarce, and before gooseberries have made their appearance. Its flavor is so delicate, that it ought not to be mixed with any other ingredient than sugar; and on no account should it ever be peeled.

The Red Goliah Rhubarb may be propagated either by sowing the seeds or purchasing young roots of one year's growth, and planting them during the spring months in a good rich soil. In the former case, that is, if the seeds be sown, they are to be transplanted in a few weeks, and in the following year their stalks will be large enough to pull. If roots be obtained and planted in March, the plot will be available in a month or six weeks. No further care is requisite than to manure the bed in the autumn after the leaves have decayed. To those who are unaccustomed to the plant which is the subject of our eulogium, it may be as well to mention, that the stalks should never be cut from the bed, but wrenched sideways with a sudden twist, when the whole stock comes away at its junction with the root—round, flat, clear, and white as milk.

As soon as the growth becomes vigorous, each root sends up a flower stalk, which will readily be distinguished from the leaf stalks; these must be pulled away, and only one left (if it be intended to procure seed,) and this plant should be less used than the others, if at all, during the season. The leaves are enormous; we have measured many that have been four feet long and three and a half wide. The roots, too, are gigantic—so large that, in the course of three or four years, a single root, when digged up, would fill a wheelbarrow; hence the plants require a wide space—say five feet apart every way.

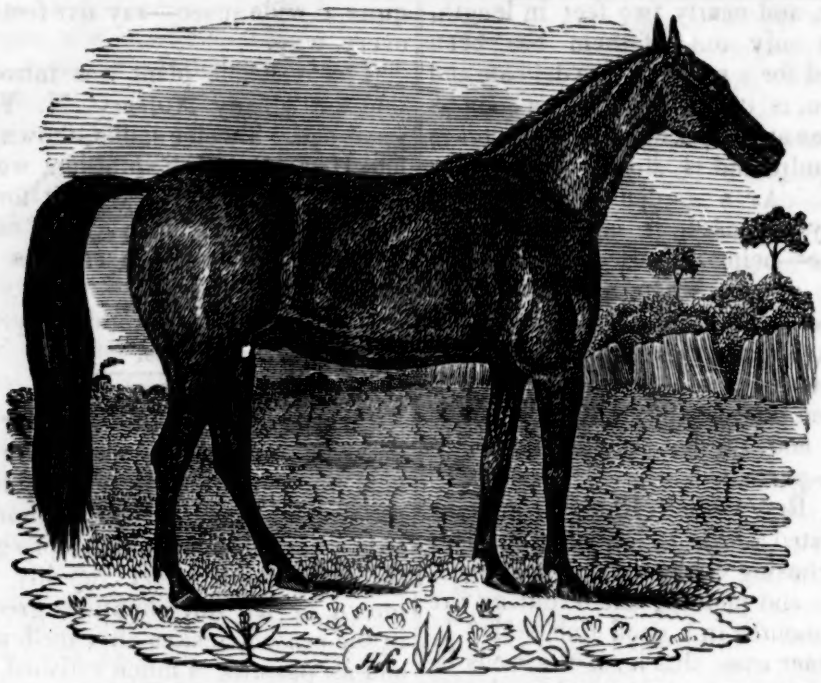
This valuable plant was introduced into the Albany Nursery, N. Y. four years ago. Twelve stalks, shown at the late Horticultural Exhibition, weighed 12¼lbs. It is the best fruit for pies. It is everlasting, hardy, and, on rich ground, is as certain a crop as horse radish.

It is cultivated near this city, (Cincinnati,) with success.

Orchard Grass.

Of the grasses cultivated for meadows or pasture, on moist but not wet land, there are few more valuable than the orchard grass, *Dactylis glomerata*. It is a very durable plant, springs early, grows with great rapidity when mown or fed off, continues green late in the season, makes an excellent hay, and as pasture, is much relished by all animals. It is particularly valuable as a grass to sow in orchards or woodlands, from which the under brush has been cleared, as it thrives well in the shade, and by occupying the ground in such places, not only furnishes good pasture, but excludes weeds that would otherwise take possession. A mixture of clover, orchard grass, and timothy seeds makes good mowing or pasture; the two last spreading and occupying the ground as the clover dies out. Where the orchard grass is used alone, more seed should be put on than is generally used, as if thin it makes large tufts, and will not mow or feed as evenly as when growing closer. Where frequent rotations of grain crops are practiced, as in some of our wheat growing districts, orchard grass would not be equal to clover, and indeed nothing could be substituted for that grass, for alternating with wheat. Orchard grass seed is quite bulky and light, a bushel weighing under twenty pounds, and hence those unacquainted with its appearance and use, generally but imperfectly seed their land.

Let every man remember that *science* lays the foundation of sound knowledge in agriculture.



The Farmer's Horse.

The above cut represents the English thorough bred horse. We will in this place, for the present, speak only of the farmer's horse.

The nature of this horse depends on the description of work for which he is to be used. It is now well known that the bulky animal which was formerly more employed for agricultural purposes, is not so well calculated for the *general* business of the farm as one somewhat less in size, yet not deficient in strength. The horse appropriated for riding occasionally, but principally employed in draught, should be about fifteen hands and two inches, which may be placed as a standard; possessing a shoulder thicker, lower, and less slanting than would be found in a hackney, which will be the properties wanting in draught, and will better suit the collar. A stout compact horse, not too heavy, and with as much blood as can be conveniently procured, provided there be the requisite docility and sufficient substance, will have the preference.

Horses of this description will be cheaper to keep, and move with greater celerity, than the unwieldy farm-horse of past days,—which will be found particularly advantageous in harvest, as well as in winter; and the fine days of carting or harrow work will not unfit him for the saddle, especially if the rider feels his mouth, and has not overworked the animal, but kept him in good condition.

Mares are certainly better calculated for small farmers, as, in addition to their being equally strong, and perhaps bulk for bulk much stronger, they open some source of profit, of which a careful farmer may avail himself in breeding from them.

If the farmer has a few useful cart mares, and crosses them with a well-knit half-bred or full blooded horse, he will certainly have colts useful for every purpose of agriculture, and some of them sufficiently light for the carriage.

In breeding, however, the farmer should carefully avoid the mare which has any imperfections or disease, as either the one or the other will descend to the foal; and he should also constantly keep in mind the necessity of keeping the foal well, without which it will be much injured, as nourishment is highly necessary while young, and which, if stinted, however much may

be given afterwards to bring the young horse into condition, the traces of evident neglect will still be conspicuous.

More depends on the quality of the mare for breeding than is generally understood, and therefore the breeder should carefully avoid an undersized or a blemished or unsound mare; she will do well enough probably for working on the farm, but will be altogether unfit for breeding. A roomy mare, with some blood in her, and with most of the good points, will alone answer the purpose. She may bare about her the marks of honest work (the fewer of these, however, the better,) but she must not have any disease.

The foal, as has been stated, should not be stinted for the first two years, but should be closely attended to. At about three years, whether for work or carriage, he may be broken in; if for carriage, the best and most advantageous manner will be by making him earn a part of his livelihood. Let him be put to harrow or light plough, which will contribute much, by his walking over ploughed ground, to give him that showy action so necessary for the carriage horse, but inexcusable in all others. The next year the colt will be fit for the markets or for home use.

For the Western Farmer.

Early kinds of Corn.

Mr. E. J. Hooper:—Sir, in compliance with your request, I now communicate to you the result of my observations on the various kinds of Indian corn, with which I have some little acquaintance. As my experiments are confined to one summer only, they must, of course, in some respects, be defective, as a difference of season might produce different results in the cultivation of the same kind of grain.

Last year I cultivated some eight or ten different kinds of corn, among which were the Baden, the Dutton, the Cluster, the China Tree, and the early English Table corn.

Last year was considered by all farmers a bad year for the Baden—so I proved it. But I am of opinion that it will not yield so large a crop as the large white corn usually cultivated by the farmers in this part of the country, as it is from two to four weeks later.

The Dutton corn proved with me the *earliest*, and the *best* for the table.

The Cluster corn comes to the *roasting-ear* state, about the time the Dutton leaves it. These two kinds I consider preferable to any others for the table, in reference both to quality and quantity.

The China Tree corn, is a dwarf flint, and I think it will but poorly repay the cultivator.

The early English Table corn, is also a flint, and the most dwarfish of all the corn family, allowing some of the ears to lie on the ground. These last mentioned two kinds, give from two to six ears to the stalk, but all of them small. Neither the origin nor the history of the China Tree corn, give it any preference in my estimation.

I am aware that the little sugar corn, as it is commonly called, has a high reputation, and possesses some advantages; but I am satisfied that gardeners who attend the market, would find it to their advantage to give more attention to the Dutton corn than is generally given. Very respectfully yours,

WM. B. ROSS.

Newport, Ky., June 1, 1840.

From the Cultivator.

On the Culture of Lucerne.

Respected Friend, Jesse Buel:—I sometime since received a letter from thy father, requesting me to give him such information as I am possessed of respecting the culture of Lucerne; and thinking thou would like to have it, I have concluded to send it to thee, as I think every farmer who has land suitable for it, ought to have plenty of this valuable grass. It requires a good deep soil, that has not clay bottom. I have succeeded beyond my expectation, and now find no more difficulty in raising it than any other crop. In order to prepare the land for it, spread plenty of unfermented manure on it, and plough it in and plant corn, which ought to be

well managed, allowing no weeds to grow. After the corn is taken off, give it a good deep ploughing, and let it remain in that state until spring, if to be sown with barley; but if with winter wheat, harrow it well, and collect the roots and loose stones, and should there be any fast stones they ought to be removed; then spread about forty bushels of ground bones per acre, and harrow it in; but if bones are not to be obtained, any good rotten manure that has no seeds of weeds in it will answer And as it is best to lay the land in ridges about 24 feet wide, open a furrow about 12 feet from the fence, and let the near horse return in it; then open another in the same manner, 24 feet from it, and so continue until the whole is finished; then sow the wheat and plough it in, not very deep, filling the furrows which were opened, and harrow it once over. As it is best to have it as smooth as may be, I made a hone with a plank about nine feet long, and two poles, pretty much the shape of those we smooth our roads with; and if it is not heavy enough lay a post or two on it. It ought to be so constructed as to draw the loose earth towards the furrows. In the spring, about the time clover seed is sown, sow about twenty pounds of Lucerne seed to the acre, and harrow it in with a sharp, heavy iron toothed harrow, twice over, once each way, and roll it with a light roller, across the ridges, to be drawn by one horse. After the grain is taken off, let it remain in that state (not pastured) until spring. Soon after the frost is out of the ground, before it is much settled, harrow it once each way with the heavy harrow. I had mine pointed with steel. The harrow ought to be made in two parts; and hung together with hooks and eyes; then it can readily be lifted up on one side by the driver, and cleared by a boy to accompany him with a rake. It may be harrowed three or four times over after every mowing, remembering to pick up the loose stones. The reason I recommended laying it in ridges, is because it can be more readily smoothed with the hone. If it is not smoothed, the harrow will not have the desired effect; and the natural grasses are apt to get in. I generally let mine stand until in blossom, when it is designed for hay. I usually got three good crops, and think the hay is better for all kinds of stock, than any I have ever seen. My first crop has sometimes been so large, that it is best to cut it rather earlier, as it will sometimes lodge and may injure the roots.

As this grass requires more time to cure than some others, I thought it might be well to inform thee how I manage it. That which is cut in the forenoon, if the sun shines, may be turned with a rake towards evening, but not opened; and that which is cut in the afternoon may remain until the next afternoon, before turning it. That which was first turned ought to be turned the next forenoon, and put in cocks early in the afternoon, and let it remain two nights in cocks; then open it and lay the fork fulls separate, shaking it well, and if it does not appear to be sufficiently cured after being turned, put it up in cocks and let it remain one night more. When the hay is housed, I generally put half a bushel of salt to a load—say to about fifteen hundred.

When the swaths are turned the second time, let two be turned towards each other; then when it is raked, the horse can walk between them, and let a boy keep by the side of the horse, and when the rake is full, let him open the swaths with a fork, that the rake may readily enter.

I have been thus particular, being desirous that whoever may wish to raise this grass, may succeed, as a number of my friends have been disappointed for want of proper management. Thy assured friend,

JAMES BYRD.

P. S. If the seed is sown on winter wheat in the spring, it ought to be done when the ground is neither too wet nor too dry, but when it will crumble.

Flushing, 2d mo. 19, 1840.

Growth of Young Trees.

When young trees stand in grass land, or in gardens where the earth is not dug up every year around them, and freed from weeds, they do not at first increase properly in growth, and will not thrive so well as those which have been planted in cultivated ground. It has been remarked also, in orchards, that the more the ground becomes grassy, and, as it were, converted into turf, the fruit is smaller and not so well tasted. The latter circumstance takes place particularly with regard to plums.

Having planted several young plum trees, I covered the ground for some years, around the trunks, as far as the roots extended, with flax shows, by which means these trees, though in a grass field, increased in a wonderful manner, and far excelled others planted in cultivated ground. As far as the shows reached, the grass and weeds were choaked; and the soil under them was so tender and soft that no better mould could have been wished for by a florist.

When I observed this, I covered the ground with the same substance, as far as the roots extended, around an old plum tree, which appeared to be in a languishing state, and which stood in a grass field. The consequences were, that it acquired a strong new bark; produced larger and better tasted fruit; and that those young shoots which before grew up around the stem, and which it was every year necessary to destroy, were prevented from sprouting forth, as the covering of flax-shows impeded the free access of air at the bottom of the trunk.

Last year, I trausplanted from seed beds into the nursery, several fruit trees, the ground around some of which I covered, as above, with flax-shows. Notwithstanding the great heat of the summer, none of these trees, where the earth was covered with shows, died or decayed, because the shows prevented the earth under them from being dried by the sun. Of those trees around which the ground was not covered as before mentioned, the fourth part miscarried, and those that continued alive were far weaker than the former. The leaves which fall from trees in autumn may also be employed for covering the ground in like manner; but stones or logs of wood must be laid on them, to prevent their being dispersed by the wind. In grass-land a small trench may be made around the roots of the tree, when planted, in order to receive the leaves. If flax-shows are used, this is not necessary; they lie on the surface of the ground so fast as to resist the force of the most violent storm. The leaves which I have found most effectual in promoting the growth and fertility of fruit trees, are those of the walnut tree. Whether it is that on account of their containing a greater abundance of saline particles, they communicate manure to the ground, which thereby becomes tender under them; or that they attract nitrous particles from the atmosphere, or that by both these means, they tend to nourish the tree both above and below.

For the Western Farmer.

Pumps for Cisterns, &c.

Mr. E. J. Hooper:—At your request, I send you the engravings, showing the external appearance of my anti-freezing pumps, with a description of their mode of operation. As several kinds of metallic pumps have been before the public, and are frequently offered for sale, it may not be uninteresting to your readers to have some points and principles concerning them examined and illustrated.

Experience and observation will show the correctness of the following rules in relation to pumps, and which are adhered to in the construction of mine.

1. Every part of a pump that is at all liable to be affected by wear should be easy of access.

2. Pumps should be so made that any person can put them in operation and keep them in order; and especially should the valves, suckers, and pistons be so simple that any one can make them new, taking pattern by the old. It should therefore be considered as a mark against a pump when the seller

avoids exposing the internal structure from any pretext whatever.

3. All pumps should be constructed of materials not liable to rust, corrode, nor affect the water, as is done by wood, copper, or raw cast iron. I use for my cistern pumps an alloy of zinc that has been found not liable to oxydise, while for fire engine and deep well pumps I use "prepared cast iron," or cast iron that has been alloyed by cementation with zinc and other substances (by a process known only to the initiated,) upon the inner surfaces of the cylinders, which forever and entirely prevents the oxydation of the iron, while the surface is rendered smooth, hard and brilliant. A counterfeit of this preparation by mere tinning could be easily detected, by its readily yielding to any hard instrument. As it regards the utility of tinning, it could only answer a temporary purpose, as oxydation would immediately commence when the tin was worn off in any part, while the zinc alloy amalgamates with the iron to considerable depth, and so long as the least particle of the alloy remains upon the iron, oxydation will be prevented, and as a consequence, the water will not be affected.

4. Stuffing boxes in pumps for common use should always be avoided, owing to their great liability to get out of order. They will answer about steam engines where an engineer is always ready to screw up and repack them, which it is known they are constantly requiring.

5. All pumps in this climate should be so constructed as not to be liable to freeze, nor to require any separate act from the ordinary use of the pump to prevent it; for this once forgotten in winter, and the pump is either burst or is otherwise rendered useless.

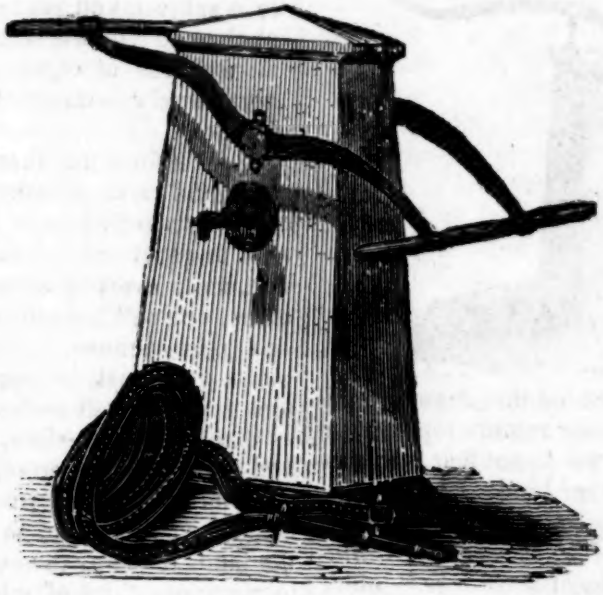
The *anti-freezing* property I consider the great desideratum with pumps in this country, and to render them at all safe in this particular, every part of a metallic pump containing water must be excluded from the external air, and a direct communication must be opened between the warm air of the well or cistern, and the chamber or box above ground containing the cylinders and pipes, that by the greater levity of the warmer air in the subterranean reservoir, it may rise around the pump and prevent freezing. Having seen so many metallic pumps burst and thereby rendered useless by freezing, I consider it the most important point about a pump, and have made it a prominent claim in my patent.

The suckers and pistons of these pumps are made more simple and at the same time more durable and perfect in their operation than any other that I have known. In the absence of stuffing boxes in force pumps, the pistons must be extremely perfect; I have therefore constructed a self-adjusting piston for the fire engine pumps. By means of an anti-oxydising spring of simple construction, the piston is made to fill the cylinder completely until a thick piece of sole-leather surrounding it is worn out. Their peculiar construction could not well be explained without drawings, which I will furnish for a future number of your valuable journal.

The first two cuts, figures 1 and 2, represent Fire Engine pumps, with coils of riveted hose that may be connected to the spout in one minute, by means of a screw, whereby they answer the double purpose of pump and *fire engine.* At the same time they are useful to water gardens and pleasure grounds, wash windows, convey water to upper stories, baths, &c.

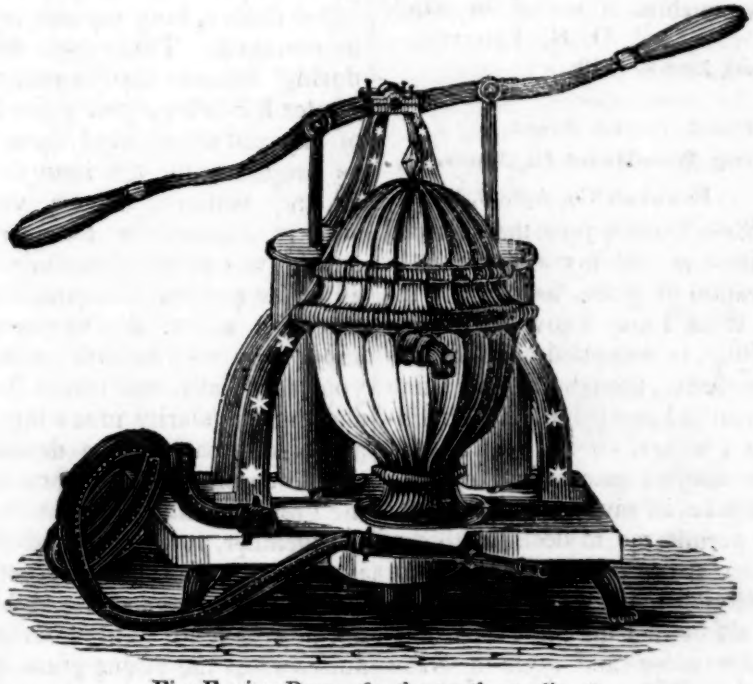
Fig. 1, operates upon the same principle as fig. 2, but to prevent freezing, the metallic cylinders, air vessels, pipes, &c., liable to be burst with frost, are enclosed within a box, open at the bottom. The southern pump has to some eyes a finer appearance, and *can* be made cheaper, but cannot be profitably used in this climate. Winter would render them as useless as the various other kinds of metallic pumps have become, that were exposed in like manner. In a small town in Ohio, about two years since, eleven metallic pumps were burst in one winter, out of thirteen that were sold the year before.

Figure 1.



Anti-freezing Fire Engine Pump, either for wells or cisterns; used only for watering gardens, washing windows, conveying water to baths, &c.

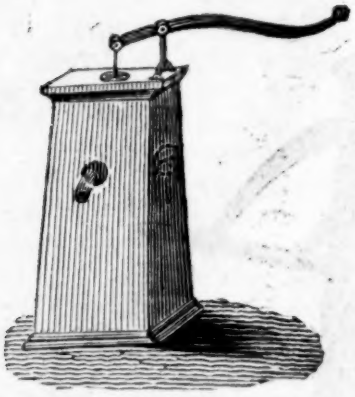
Figure 2.



Fire Engine Pump, for the southern climate.

Figure 3. shows the form of the "suction pumps," used principally for shallow wells and cisterns, and for pumping water only. The sucker can be easily taken out at the top and repaired, or made new by any one, but would not require either for two years. Printed directions accompany them.

Figure 3.



It is not pretended that these articles never wear out nor require repairs, but in this respect, we do not fear comparison with any other kind.

They are now manufactured only at the "*Cincinnati Machine Card Manufactory and Machine Works*," office on Walnut, near Front street, A. C. Brown, agent. The high reputation so long enjoyed by this establishment throughout the west, must be considered a sufficient guaranty for the character of the workmanship, if not of the article itself. O. S. Leavitt.

Cincinnati, June 3, 1840.

From the Franklin Farmer.

Seeding Woodland in Grass.

Bourbon Co. April 2, 1840.

Dear Sir—Your request that I should communicate to you my experience in the cultivation of grass, as you are inclined to think I may know something worth telling, is complied with by me most cheerfully, though, at the same time, I must acknowledge, my qualifications as a writer, are not such as will make the subject interesting, even to you, who take so much interest in it. You will permit me to describe things in my own way, and if I am in the main intelligible, you will, I know, be satisfied, although I may not treat matters in the order and style a critic might wish. Before I am done I think it likely I shall introduce some topics not strictly within the scope of your request, but lying very near to its borders. If, for instance, my hand does not tire, I may say something about the best mode of grazing and fattening cattle, a subject, you perceive, that has not much to do with the cultivation of grass, but which is of equal interest, and is more closely connected with it than is supposed.

You inform me that much of your woodland is in a state of nature, and that you would like to know the best way to get it well set in grass. To do this, as in every other work of importance, you will have to exercise patience and perseverance. And in the first place, you must, as speedily as possible, get rid of all useless timber, such as buckeye, box-elder, thorn-bushes, and the rough and crooked sugar trees, as well as shrubs, iron wood, hornbeam, and such like, as may encumber the land, reducing the amount of shade to about one-third of what is common on forest land. This is usually done by cutting down and burning the smaller sized timber and shrubs, and by deadening the larger, and leaving them for time to assist in their removal. All fallen timber, both top and trunk, must be removed. This work being done during summer and autumn, in the winter following, you must feed stock of any and every kind upon the land so prepared, for the more it is tramped the better. Scatter your grass seed in January or February, and to enable you to do it regularly and upon all of the surface, you must take advantage of a snow, for by sowing on a snow you will be able to see where your seed falls, and where it does not, and thus regularity in sowing is gained, an object greatly to be desired. You should continue to feed upon and tramp the ground, until, from the warmth of the weather, it is apprehended the seed is about to germinate, at which time all stock must be taken off. A hoof must not now touch it until about the first of June, when the young grass will be up from six to ten inches high, being in appearance quite slender and weakly, and which, if permitted to remain much longer, without being grazed off, will fall with its own weight; will mildew,

rot and die, root and branch, at least in a great measure, especially if the shade covering the ground is considerable. It is, therefore, proper at this time to turn your stock upon it, (horned cattle much to be preferred,) and graze it close to the ground; the greater number of cattle turned on, the better; a large number will accomplish the object with more speed and more evenly than will a small one. After your stock has taken off the grass and weeds as close as it will readily eat them, it must again be removed, and you must cut down with a scythe, all remaining weeds, briers and elders. My experience has convinced me of the necessity of this kind of management in setting woodland pastures, as it not only prevents the tops of the grass from smothering the feeble roots, but the treading of the stock gives a compactness to the ground about the roots of the grass, which is indispensable at this time. After this, when the grass has again grown to a height sufficient to afford a bullock a full *bite*, you can graze it according to inclination or necessity. If the set happens to be irregular. a thing not uncommon, you should renew your efforts by resowing the naked spots, and treading the seed in with stock in the winter, or you can succeed as well by feeding hay, containing the right kind of seed, over them. Indeed, there is no method so certain of success in setting land in grass, as feeding hay, containing the description of seed desired, upon it.—When this plan is pursued, the hay should be scattered with great regularily. A ton of hay having good seed, is enough to go over five acres, if care is taken in scattering. Blue grass, you know, is in uuiversal use here for woodland pastures, but as it is slow in getting a sufficient set to be profitable, timothy and red clover seed ought to be mixed with the blue grass seed. One bushel of *stripped* blue grass seed, half a gallon each of timothy and clover seed to the acre, is the usual quantity sown; less would be bad economy, and even more would well pay for its cost, as the clover and timothy give way to the blue grass, which takes their place. Ground cleaned for grass should not be let stand over summer without being sown, for if it is, it will be overrun with *nimble-will*, (a wild grass peculiar to this country,) and thus it is rendered much more difficult and tardy to be set with the proper grasses. If deadening the timber is resorted to, when it begins to fall, and is sufficiently dry and rotten to be got rid of easily, you should take it all down, and either burn it or carry it from the ground; and if this is thought to be a waste of fuel, you should, at all events, remove it as fast as it falls, for by letting it remain to rot on the land, as is the practice of some graziers, it not only encumbers and takes up much of the ground, but encourages the growth of sprouts, briers, elders, poke and mullen, and, in truth, every kind of weed. Every neat farmer will go over his pastures once in each year with a scythe, and cut all weeds, briers, &c., and the month of August is the proper time to do it. This should by no means be neglected, for although the work may be one of considerable extent, yet each year the labor will be lessened by a decrease of weeds, until finally, if you persevere, you will have but little to do in that way.

I will, at present, continue my remarks no further. If you desire it, I will hereafter give you more of my experience on this subject, as well as upon some others in connexion with it. Farewell, W. P. H.

From the Cultivator.

Saltpetre in Meat.

Messrs. Gaylord and Tuckes:—In the twelfth number of the last volume of the Cultivator, there appeared a communication on the use of salt-petre in curing meat: and the following reason was assigned for abandoning its use, viz:—"It ought to be known, that saltpetre, absorbed by the meat, is *nitric acid, or aqua fortis—a deadly poison*, whereby our salt meat becomes unpalatable and pernicious." A sufficient answer to which is found in the fact—

that one of the constituents of common salt, is muriatic acid, as deadly a poison as the nitric acid of the salt-petre. And we might, with as much propriety say, that the salt absorbed by the meat is muriatic acid, as to say that the salt-petre is nitric acid or aqua fortis Therefore, the objection applies with as much force and truth to the use of the one as the other.

Salt-petre is the product of a chemical union between nitric acid and potassa, (potash,) and salt, of a like union between muriatic acid and soda—and in these, as in all other cases of chemical combination, the substances combining, not only lose their properties, but the substances produced generally possess properties entirely different—frequently the very opposite of those of either of their constituents. From which it follows, that a perfectly innocent compound may be produced by the combination of two noxious substances—or a noxious compound, by the combination of two innocent substances: and it is very improper, and well calculated to mislead, to designate a compound substance by the name of either of its constituents, as in the communication referred to, in which nitric acid and salt-petre are several times used as if they were but different names for the same thing.

Some persons think a small quantity of salt-petre very beneficial to their meat—others think it useless—the former need not be frightened from its use by the fear of being poisoned with aqua fortis—nor the latter deterred from trying it. J.

Lexington, Va. March 19, 1840.

From the Albany Cultivator.

Mixture of Fruits, &c.

Mr. Editor:—One of your correspondents I perceive puts the following query:—"Will the trees from the stone of the peach, plum, cherry, apricot, &c., produce fruit of the same quality as did the trees on which they grew?"

From my observation nature is correct and regular, like producing likeness in the vegetable as in the animal kingdom.

The seeds and stones of the fruit of any tree or plant, standing alone and when the blossoms or the generative organs in them are impregnated from its own genitals, will uniformly produce a progeny of trees and plants, which will produce fruit like the parent tree or plant, lusus naturæ excepted.

We set in the same garden fruit trees of all sorts, and vegetables to produce seeds of all kinds, near to each other. Those which are in blossom, (their bridal habiliments,) at the same time and of the same genus, will cast the pollen from their stamina or male organs on the pistals or female organs of their neighbors, and thereby produce hybrids, mules, mulattoes.

I once planted pits of fine yellow gage plums, from a tree in my garden. Two of the trees produced common blue plums, nearly alike, one a large blue plum tinged with red, late to ripen, and excellent for sweetmeats; and one produced a yellow gage, about half the size of the parent tree, and of inferior quality. The parent tree stood near to blue plum trees, and the progeny were all hybrids.

I planted the pit of an egg plum from a garden of plum trees of various sorts. The egg plum is nearly the size of the hen's egg, yellow, acid, and ripens in September, and probably the best for sweetmeats. The seeding tree produced plums of similar color and shape, of less than half the size of the egg plum, and ripened the first week in August. The flavor was sweet, except near the stone it was acid, like the egg plum.

I reared a peach tree in the same garden. The first season of bearing the peaches were large, yellow, and very fine; the next season it bore peaches of red blush. An early red peach tree stood a short distance east of the tree in question, and I presume the east wind prevailed when they were in blossom at one time.

Most persons who have planted the sweet boiling corn near to the hard

yellow or white corn, and even fifty rods apart, have noticed single kernels of the hard on the ears of the sweet corn; these kernels appear to be wholly of the hard corn, studded by the side of the shrivelled sweet corn. So all the other trees and vegetables mix in the blossoms and produce new varieties.

Apples are improved in the same way, or are rendered inferior. The flavor of choice apples grafted on the stocks of sweet apple trees, is more mild than the flavor of those grafted on stocks bearing sour apples.

If you plant potatoes of one colour and kind which were produced near to those of another color, you often collect both colors and sorts from the hill planted of the one color only. [Doubted by the conductor.]

I have said enough to those who observe the works of nature, to establish the proof of the cause of hybrids and varieties in fruits.

It is often asked, which is the best method to transplant trees? The most successful mode that I have practised, has been, to open a hole sufficiently wide to permit the roots to extend in their natural position, not to be cramped. Fill the hole full around the tree with dry and loose earth, such as of onion beds in the garden, and of good quality; then dash in a pail of water, and shake the tree gently. The water converts the fine earth to liquid mud in the hole around the tree; the mud will cling to all the roots; the water will soon sink below, leaving the mass of mud compact around the roots, and no cavities of air. Then fill up the hole again with dry earth, and press it gently

If the tree is set in dry earth, filled in, it leaves vacancies of air under the roots, and they starve and perish. Many fine trees are lost in transplanting, by saving the handsome top. The roots of the newly set tree cannot receive immediate nourishment from the loose ground sufficient to support a large top; and while the roots are connecting with the ground, the top dies from want of nourishment.

DAVID TOMLINSON.

From the Cultivator.

Berkshire Hogs, again.

MANY attempts have been made in Europe to improve the breed of the native swine, by selections and otherwise; but so far as the writer has been able to follow them up, there has been little success, and that little very slowly obtained, except only where resort has been had immediately to the Chinese boar. This is particularly the case with England, whose efforts seem to have carried her, in this department, as far beyond her neighbors as in that of the improvement of horses, cattle, and sheep. Every county there boasts of its breed of swine, and certainly many are very deserving, having derived their chief excellence from a cross more or less deep with the large white Chinese boar. Of these are the Leciester, the Bedford or Woburn, the Sussex and Cheshire. But the most decided improvement, and which, by the care and skill of recent breeders, has now nearly attained perfection, was that of the black Siamese boar upon the old stock of Berkshire county. This, I understand, began about forty years since. The Berkshires were then mostly a long, large, coarse, lop-eared hog, of a sandy, or reddish brown, or white, with black spots, and coming up, no unfrequently, to the high weights of 800, and even 1000 pounds. But it was a slow feeder, long attaining to maturity, an enormous consumer, and in common with most of England's other varieties, an unprofitable beast. Yet possessing rather thicker hams and shoulders than the other kinds, a longer, fuller body, and its meat abounding greatly in lean, the little, short, fat, black mouse-eared Siamese told well in the cross; and thus was produced the dark, splendid Berkshire, that at present occupies the same rank among hogs that the Durhams do among cattle. They mature quickly, and like the Chinese can be fattened at any age, and still may be selected, when desirable, for great sizes; are prolific breeders and the best of nurses; thrifty, hardy, and of most

excellent constitution. They are fine in their points, possessing remarkable thickness in the ham and shoulder, and show a round, smooth barrel of good length, that gives a large proportion of side pork. They have little offal, thin rind and hair, and few or no bristies. The meat abounds still greatly in muscle, and the hams particularly are highly prized, commanding an extra price in market, being very tender, juicy, and lean.

As now bred, the Berkshires vary somewhat in size, appearance and maturity. Those with the finest heads, a dished face, and rather upright than forward ears, with a snugger shoulder and ham, and shorter body, most resemble the Siamese ancestor, and therefore are quickest to mature, and probably give the most delicate meat, and to one satisfied with moderate size, are undoubtedly to be preferred. Barrows of this description, if well fed till eighteen months old, easily attain 300 to 400 pounds, and weights within these limits are the most eagerly sought for at the Smithfield market, and are probably on the whole the most profitable for both consumer and producer. Others generally of a straight nose, with a coarser head, and ears protruding well forward over the eye, or slightly lopped, with greater length of body, incline more to the original Berkshires, attain higher weights, and require a longer time to mature. There are individuals, however, occasionally possessing all the fine requisites of the former selections, together with the large size of the latter.

Mr. James Berry, near Newport, Ky. possesses a fine family, 1 boar, 2 sows and 10 pigs, litters of these animals. Some of the young ones are for sale at moderate prices. The editor has some mixed with the Byfield, and he has found the improvement on the common breed of the country incalculably great. They keep in a fat condition on grass alone. Improvement in hogs is well worth attention.

From the American Farmer.

Preserving Pumpkins.

We understand that Mr. C. S. W. Dorsey is at this time feeding his milch cows freely on pumpkins of last year's growth, which are in a state of perfect preservation. The butter is of the finest quality, and of the richest color, as might be expected from such food. His mode of preserving so perfectly a vegetable which, while it can be kept sound, all consider so valuable, but which has generally been found to be delicate and perishable, is worthy of being noted. We understand his system to be, to cover the space in his barn intended for their preservation with dry straw, say a foot or eighteen inches thick. On this is placed a layer of pumpkins, and on that another thick layer of straw, and so on; and the result is that his cows have been supplied to the present time with an abundance of this superior food, in a perfectly sound and pure condition.

One word here.—When gentlemen succeed in experiments so useful as this, they ought to communicate the result to the *Western Farmer*, and not hide their lights under a bushel or leave them to be discovered by accident. A word to the wise is sufficient.

Improved Stock.

The farmers of Ohio and Kentucky have, at this time, a very good opportunity of improving their sheep from Mr. George Smith. at Carthage, and from Mr. C. S. Clarkson, near Cincinnati, as these gentlemen possess some remarkably fine animals of the South down, Cotswold and Bakewell breeds. We are informed that the proprietor of these fine animals will stand the bucks at their farms this season. These are all from late imported stock. Some of them are for sale. They will, we believe, accommodate farmers by letting the bucks out.